XVII.—Floræ Insularum Novæ Zelandiæ Precursor; or a Specimen of the Botany of the Islands of New Zealand. By Allan Cunningham, Esq.

[Continued from p. 52.]

Compositæ s. Synanthereæ.

I. CICHORACEÆ, Lessing.

1. SCORZONERA, L. DC.

430. S.? scapigera (Sol. MSS.) foliis lanceolatis retrorso-dentatis integerrimisve, caulibus gracilibus, scapo unifloro. Forst. Prodr. n. 534, absque descript.

New Zealand (Northern Island).—1769, Sir Jos. Banks. Among fern, on the hills, Bay of Islands.—1834, R. Cunningham.

Anne vere species hujus generis?

2. Sonchus, L.

431. S. oleraceus. L. Forst. Prodr. n. 282. A. Rich. Fl. Nov. Zel. p. 230. Engl. Bot. t. 843.

Pouro-rona, Incol. D'Urville.

New Zealand, frequent on the northern and middle Islands.—1773, Forster.—1827, D'Urville.

3. Picris, L. Lessing.

432. P. hieracioides. L. Willd. Sp. Pl. 3. p. 1556. Engl. Bot. t. 196. New Zealand (Northern Island). On the sea coast, near the Bay of Islands, rare.—1834, R. Cunningham.

433. P. attenuata, caule erecto glabriusculo vel tenuiter hispido, foliis elongato-lanceolatis attenuatis integerrimis strigosis, foliolis exterioribus involucri laxis.

New Zealand (Northern Island). On the hills, among fern, Bay of Islands. —1834, R. Cunningham.

II. VERNONIACEÆ, Lessing.

1. SHAWIA, Forst.

Capitulum uniflorum. Pappus biseriatus, setaceus, scaber. Achenium hirsutum, teres. Involucrum turbinatum, imbricatum.

434. S. paniculata. Forst. Gen. 48. tab. 48. Prodr. n. 507. Lessing. Syn. Gen. Comp. p. 156. A. Rich. Fl. Nov. Zel. p. 243.

New Zealand (Northern Island).—1769, Mercury Bay, Sir Jos. Banks.—(Middle Island) 1773, G. Forster.

Obs. Caulis arboreus, ramosus. Folia alterna, ovato-oblonga, petiolata, undulata, obtusa, supra viridia, glabra, subtus sordide albo-tomentosa, bi-pollicaria. Paniculæ terminales axillaresque compositæ, pedicelli uniflori, brevissimi. Involucrum imbricatum, cylindricum, foliolis 5—6 oblongis acutis, tribus interioribus longioribus subæqualibus. Achenium solitarium oblongum lanatum. Pappus pilosus, basi pubescens. (Ex Forstero.)

III. ASTEROIDEÆ, Lessing. p. 161.

1. Solidago, L. Lessing.

435. S. arborescens, fruticoso-arborea, paniculis corymbosis erectis terminalibus, foliis ovato-oblongis basi attenuatis petiolatis glabris acutiusculis obtusisve repandis, subtus discoloribus, ramulis angulatis glabris (incanisve, Forst.). Forst. Prodr. n. 298. A. Rich. Fl. Nov. Zel. p. 252.

New Zealand (Northern Island). A tree 12—15 feet high, in dark humid woods on the Kana-Kana and Hokianga rivers.—1826, A. Cunningham (Middle Island).—1773, G. Forster.

2. LAGENOPHORA, Cassini, Lessing *.

Radius uniserialis fœmineus. Discus hermaphroditus. Achenium planocompressum, calvum, rostratum. Lessing.

436. L. Fosteri, foliis orbiculato-spathulatis crenato-serratis piloso-ciliatis petiolo (pollicari) duplo triplove brevioribus, foliolis involucri margine ciliatis, rostro achenio bifido. L. Commersonii, Cassini in Dict. Sc. Nat. xxv. p. 109. Lessing. p. 193. Microcalia australis. A. Rich. Fl. Nov. Zel. p. 230, tab. 30. Calendula pumila. Pers. Syn. Pl. 2. p. 492. Forst. Prodr. n. 305.

The daisy of New Zealand. Tupu-tupu incolis vulgo dicitur.

New Zealand (Middle Island).—1773, G. Forster. Astrolabe Bay.—1827, D'Urville (Northern Island.)—1769, Sir Jos. Banks. Sloping shelves and in swamps on the shores of the Bay of Islands.—1826, A. Cunningham.—1834, R. Cunningham.

437. L. lanata, foliis obovato-oblongis obtusis undulatis dentatis, basi sensim angustatis utrinque villosis, foliolis involucri glabris membranaceis, rostro achenii.

New Zealand (Northern Island). Among fern, between the Waitangy and Keri-Keri rivers.—1834, R. Cunningham.

3. ASTER, L. Cass.?

438. A.? holosericeus. Forst. Prodr. n. 296. A. Rich. Fl. Nov. Zel. p. 248.

New Zealand (Middle Island). On mossy rocks, at Dusky Bay.—1773, G. Forster.

Obs. Caules herbacei, 4—5 pedales, erecti. Folia radicalia, spathulatolanceolata, argute dentata seu subserrata, subtus argenteo-holosericea. Capitulum solitarium, terminale, amplitudine fere ac in Astere Chinensi, L. radiatum.

439. A.? coriaceus. Forst. Prodr. n. 297. A. Rich. Fl. Nov. Zel. p. 250. New Zealand (Middle Island).—1773, G. Forster.

^{*} The type of this genus, a native of Van Diemen's Land, may be thus characterized: L. Billardieri; foliis obovato-oblongis dentatis in petiolum attenuatis, undique pilosis, foliolis involucri glabris, rostro achenio integro leviter dilatato. L. Billardière. Cassini in Dict. Sc. Nat. xxv. p. 109.—Bellis stipitata. Labill. Nov. Hol. 2. p. 55. t. 205. Pers. Syn. 2. p. 460. Hab. In Insula Van Diemen, 1792.—J. J. La Billardière.

Obs. Caulis herbaccus. Folia ovata, coriacea, integra, supra sulcata, subtus villosa. Scapus foliosus, uniflorus, lanuginosus.

"Cette espèce, fort voisine de la précédente, n'en est peut-être qu'une simple variété." A. Rich. l. cit.

I have no means of ascertaining to what genus these species, if distinct from each other, belong, as Forster says but little of the real structure of the *achenium*, and nothing at all of the form of the *pappus*. They appear, however, to be species of *Calmisia*. Cass.

4. HAXTONIA, Caley. D. Don.

Involucrum polyphyllum imbricatum. Flosculi radii fœminei ligulati, stigmatibus linearibus obtusis, sulco exaratis, margine incrassatis! Disci hermaphroditi. Achenia sulcato-angulata. Pappi radiis persistentibus, apice penicillatis! D. Don.

440. H. furfuracea, fruticosa, foliis ellipticis coriaceis petiolatis obtusis, margine undulatis integerrimis dentatisve, supra lævibus subtus argenteo-furfuraceis, corymbis terminalibus, "radiis ternis."—Aster furfuraceus. A. Rich. Fl. Nov. Zel. p. 246.—A. elongifolius. A. Cunn. Ms. 1826.

Tarata Incolarum fluvii Thames. D'Urville.

New Zealand (Northern Island). Banks of rivers, at the Bay of Islands. 1826, A. Cunningham.—1834, R. Cunningham. River Thames.—1827, D'Urville.

Oss. Frutex 6-10 pedalis.

5. VITTACLINIA, A. Richard.

Capitula radiata. Involucrum polyphyllum imbricatum. Receptaculum alveolatum. Semiflosculi exteriores fœminei longiores, revoluti; flosculi interiores hermaphroditi tubulosi, graciles. Stamina, 5 libera; antheris linearibus, basi abrupte recurvatis. Stigmata duo linearia. Achenium teres basi stipitatum. Pappus sessilis, fimbriato-pilosus.

441. V. australis. A. Rich. Fl. Nov. Zel. p. 251.—Brachycoma spathulata. Gaud. in Freye. Voy. p. 467.

New Zealand (Northern Island).—1769, Sir Jos. Banks. (Middle Island.) On the sandy rocky shores of the French strait (Passe des Français). Tasman's Bay.—1827, D'Urville.

Planta ramosa, erectiuscula, subpilosa, 6—8 uncias alta. Folia obovalispathulata sub 5-loba, lobo terminali majore obtusa. Capitula terminalia solitaria. Flores radiati.

IV. SENECIONIDEÆ, Lessing.

1. BIDENS, L.

442. B. piloza. L. Forst. Prodr. n. 283. A. Rich. Fl. Nov. Zel. p. 235. Koériki ab indigenis. D'Urville.—Horikike Incolarum secund. R. Cunningham.

New Zealand. Most frequent on cultivated ground, chiefly on the Northern Island. G. Forster. D'Urville. R. Cunningham.

2. COTULA, L. Lessing.

Capitulum, heterogamum, floribus Q uniserialibus sæpe sterilibus in ambitu, reliquis \(\tilde{\phi} \) fertilibus. Achenium calvum, flori fæmineo stipitatum, plano-compressum, flori hermaphrodito sessile et angustius,

443. C. coronopifolia. L. Forst. Prodr. n. 300. A. Rich. Fl. Nov. Zel. p. 235.

New Zealand .- 1773, G. Forster.

3. Myriogyne. Linnæa, vi. 219. Lessing.

Capitulum heterogamum, floribus & pluriserialibus in ambitu, reliquis & .

Achenium angulatum, exalatum, calvum, conforme.

444. M. minuta, foliis subsphathulatis parce serratis, basi sensim angustatis, capitulis minimis oppositifoliis. Less. Syn. Compos. p. 266.—Cotula minuta. Forst. Prodr. 301. A. Rich. Fl. Nov. Zel. p. 235.—C. cuncifolia. Willd. Sp. Pl. 3. p. 2170.—Grangea minuta. Lamarck, Poiret, Dict. x. p. 825.

New Zealand (Middle Island).—1773, G. Forster. (Northern Island.) Swampy ground at the Bay of Islands. D'Urville.—1834, R. Cunningham.

4. Soliva, Ruiz & Pavon. (Gymnostyles, Juss.)

Cor. florum 9 pluriscrialium in ambitu filiformis persistens et cum ovario continua. Achenium apice truncatum bialatum, alis marginalibus. Less. Syn. p. 268.

445. S. tenella, repens stolonifera, foliis pinnatifidis, apice dilatatis pinnato-lobatis, lobis oblongis incisis.

New Zealand (Northern Island), on the margins of fresh-water streams. —1834, R. Cunningham.

Anne species distincta a Gymnostyles anthemifolia, Juss.?

5. CRASPEDIA, Forst.

(CARTODIUM, Sol. Mss. RICHEA, Labill.)

Capitulum circiter 5-florum. Rachis bracteolata. Pappus uniserialis, plumosus. Achenium erostre. Less.

446. C. uniflora (melius Solandri) foliis orbiculato-spathulatis glabris, margine albo lanuginoso fimbriatis. Forst. Prodr. n. 386. Willd. Sp. Pl. 3. p. 2392. A. Rich. Fl. Nov. Zel. p. 245.—Cartodium, Sol. Mss.

New Zealand (Middle Island).—1769, Sir Jos. Banks. Shores of Queen Charlotte's Sound, Cook's Strait.—1779, G. Forster.

Quid Craspedia fimbriata (Forst. Mss. in Herb. Mus. Par. ex DC.) in litt. e Nova Zelandia (conf. Endl. in Ann. der Wien. Mus. Band 1. p. 109?)

6. CASSINIA, R. Br.

Involucrum imbricatum, scariosum, pauciflorum. Receptaculum paleis distinctis squamis intimis involucri subsimilibus. Flosculi tubulosi vel omnes hermaphroditi vel paucissimi fœminei angustiores in ambitu. Antheræ (inclusæ) basi bisetæ. Stigmata apice obtuso subtruncato hispidulo. Pappus pilosus seu penicillatus, persistens.

447. C. leptophylla, foliis lineari-lingulatis subter ramulisque incanis corymbis terminalibus, involucris turbinatis. Br. in Linn. Soc. Tr. 12. p. 126. —Calea leptophylla. Forst. Prodr. n. 287. Willd. Sp. Pl. 3. A. Rich. Fl. Nov. Zel. p. 234.

New Zealand (Northern Island).—1769, Sir Joseph Banks. Sandy ridges on the shores of the Hokianga river.—1826, A. Cunningham. (Middle Island.)—1773, G. Forster.

Obs. Upon further examination of the specimens gathered on the shores of the Hokianga river in 1826; and at that period considered an unpublished species of *Cassinia*, I am now disposed to view it as Forster's plant.

7. OZOTHAMNUS, R. Br.

Involucrum imbricatum, scariosum, coloratum. Receptaculum epaleatum, glabrum. Flosculi (pauciores quam 20) tubulosi vel omnes hermaphroditi vel paucissimi, fœminei angustiores in ambitu. Antheræ (inclusæ) basi bisetæ. Stigmata apice obtuso subtruncato hispidulo. Pappus sessilis, pilosus, nunc penicillatus, persistens.

448. O. pinifolia (R. Br.) foliis lanceolatis acerosis glabriusculis margine revolutis, corymbo terminalibus congestis, ramulis tomentosis.—Calea pinifolia. Forst. Prodr. n. 288. Willd. Sp. Pl. 3. p. 1795. A. Rich. Fl. Nov. Zel. p. 234.

New Zealand (Middle Island) .- 1773, G. Forster.

8. Helichrysum, Persoon.

449. H. bellidioides. Pers. Syn. 2. p. 415. Willd. Sp. Pl. 3. p. 1911.—Xeranthemum bellidioides. Forst. Prodr. n. 293. A. Rich. Fl. Nov. Zel. p. 242.

New Zealand (Middle Island), Cook's Strait.—1769, Sir Jos. Banks.—1773, G. Forster.

Obs. Caulis herbaceus, gracilis, ramosus, spithamæus, ramulis apice capitulo unico terminatis. Folia obovalia, obtusa, apice mucronata, amplexicaulia, superne viridia, subtus cano-tomentosa. Flores magnitudine Bellii minuti. Involucrum explanatum, foliolis interioribus longioribus linearibus albis externe ima basi tomentosis. Receptaculum planum, nudum.

9. GNAPHALIUM, R. Br.

Capitulum multiflorum, floribus anumerosis, pluriserialibus in ambitu. Pappus pilosus, uniserialis, conformis. Stylus apice solo penicillatis. Achenium erostre. Rachis tota ebracteolata.

450. G. luteo-album. L. Willd. 3. p. 1871. A. Rich. Fl. Nov. Zel. p. 236. Endl. Prodr. Fl. Norf. p. 50. Engl. Bot. t. 1002.

Ponkatea, incol. D'Urville.

New Zealand (Northern Island).—1769, Sir Jos. Banks. River Thames.—1827, D. Urville. Bay of Islands.—1833, R. Cunningham.

451. G. simplex, herbaceum, caule simplicissimo lanato, foliis inferioribus obtusis caulinis oblongo-linearibus subacutis integris utrinque albo-lanatis, floribus capitatis. A. Rich. Fl. Nov. Zel. p. 237.

Pon-katea vulgo dicitur. D'Urville.

New Zealand (Middle Island). Rocky shores of the harbour of L'Astrolabe.—1827, D'Urville. (Northern Island). Bay of Islands.—1834, R. Cunningham.

452. G. lanatum, herbaceum lanatum, foliis linearibus oblongis apice calloso-mucronatis, corymbis coarctatis, caule simplicissimo. Forst. Prodr. n. 290. Willd. Sp. Pl. 3. Endl. Prodr. Fl. Norf. p. 50. A. Rich. Fl. Nov. Zel. p. 238.

New Zealand (Middle Island). Astrolabe Harbour.—1827, D'Urville.—1773, G. Forster. (Northern Island.) On the hills near the Keri-Keri

Mission Station .- 1834, R. Cunningham.

453. G. (Lasiopogon) involucratum; herbaceum caule erecto simplici, foliis lineari-lanceolatis acutis, margine revolutis, supra parce subtus tomentoso-lanatis, capitulis axillaribus sessilibus ad ramulorum apices approximatis. Endl. Prodr. Fl. Norf. p. 50. Forst. Prodr. n. 291. Willd. Sp. Pl. 3. A. Rich. Fl. Nov. Zel. p. 241.—Enchiton Fosteri, Cassini in Dict. Sc. Nat. lvi. p. 216.

Ponkatea seu Poaklimon, incol. D'Urville.

New Zealand (Middle Island).—1773, G. Forster. Astrolabe Harbour.—1827, D'Urville. (Northern Island).—1769, Sir Jos. Banks. Bay of Islands.—1833, Rich. Cunningham.

454. G. Keriense, herbaceum, caule adscendente, foliis lineari-lanceolatis acutis enerviis sessilibus semiamplexicaulibus, margine revolutis, supra lævibus viridibus subtus albo-argenteis, pedunculis terminalibus lanatis, corymbo laxo.

New Zealand (Northern Island). In the vicinity of the falls of the Keri-Keri river. Bay of Islands.—1833, R. Cunningham.

455. G. trinerve, fruticosum, caule adscendente tereti lævi, foliis lanceolatis acutis sessilibus trinerviis supra glabris subtus albidis (lanugine explanata relucente) panicula corymbosa terminali laxa. Forst. Prodr. n. 289. Willd. A. Rich. Fl. Nov. Zel. p. 239.

New Zealand (Middle Island). Dusky Bay.—1773, G. Forster.—1791, A. Menzies.

10. Arnica, Cassini?

Capitulum radiatum. Pappus conformis, setaceus, uniserialis. Stylus disci ramis pube longa descendente obsessis truncatis aut cono brevi superatis. Less.

456. A.? operina. Forst. Prodr. n. 299. Willd. A. Rich. Fl. Nov. Zel. p. 232.

New Zealand (Middle Island). Dusky Bay.—1773, G. Forster.

Obs. Caulis fruticosus, orgyalis, diffuse ramosus, lævis. Folia conferta, spathulato-lanceolata, patentia, petiolata, acuta, profunde crenata, crenis apice cartilagineis luteis, supra glabra, viridia, trinervia, subtus albo-lanata, palmaria. Pedunculi solitarii, terminales, uniflori. Flores ampli, disco luteo. Corollulæ hermaphroditæ numerosæ in disco, fæmineæ plurimæ in radio, ligulatæ, ligula lanceolata 3-dentata.

An spec. Gerberæ Cass. (Dict. Sc. Nat. xviii. p. 459)?

11. Senecio, L. Lessing. Syn. p. 391.

Capitulum heterogamum, rarius homogamum. Pappus pluriserialis setaceus, caducus, rectus, subæqualis, conformis. Stylus & ramis truncatis

apice solo penicillatis. Achenium erostre apterum, teretiusculum, glaberrimum seu hirsutiusculum.

457. S. lautus (Sol. MS.) corollis revolutis, foliis oblongo-lanceolatis petiolatis æqualiter serratis, summis integerrimis. Forst. Prodr. n. 535. Willd. Sp. Pl. iii. p. 1981. A. Rich. Fl. Nov. Zel. p. 257.

New Zealand .- 1769, Sir Jos. Banks.

458. S. australis, foliis lanceolato-linearibus acutis glabris coriaceis integerrimis aut basi utrinque dente lineari auctis, floribus radiatis corymbosis, radio subreflexa. A. Rich. in Sert. Astrolab. 131. t. 39. Willd. Sp. Pl. iii. p. 1981. A. Rich. Fl. Nov. Zel. p. 257.—S. angustifolius. Sol. Mss. Forst. Prodr. n. 539. non L.—S. dryadeus. Sieber, non L.

New Zealand (Northern Island) .- 1769, Sir Jos. Banks.

459. S. neglectus, foliis subcarnosis amplexicaulibus pinnatifidis glabris aut pilosiusculis, segmentis plus minus profundis acutis, pedunculis paucifloris, radiis revolutis. A. Rich. Fl. Nov. Zel. p. 258.

New Zealand (Middle Island). Astrolabe Harbour.—1827, D'Urville.

466. S. argutus, caule stricto striato, foliis basi sagittatis lanceolatis argute serratis pinnatifidis subtus albidis supremis linearibus integris, floribus paniculatis, flosculis interioribus 5-dentatis. A. Rich. Fl. Nov. Zel. p. 258. Endl. Prodr. Fl. Norf. p. 51. Sert. Astrolab. p. 104.

Pon-katea, incol. D'Urville.

New Zealand (Middle Island). Pebbly shores of Astrolabe Harbour.—1827, D'Urville. (Northern Island.) Bay of Islands.—1834, R. Cunningham.

461. S. quadridentata, caule erecto striato niveo-tomentoso lanuginoso, foliis lineari-lanceolatis subacuminatis tomentosis integerrimis margine reflexis, floribus corymboso-paniculatis, flosculis hermaphroditis 4-dentatis. Willd. Sp. Pl. iii. p. 1973. Labill. Nov. Holl. ii. p. 48. t. 194. A. Rich. Sert. Astrolab. p. 101.

New Zealand (Northern Island). Sea coast near the Bay of Islands.—1834, R. Cunningham.

462. S. hispidulus, caule subsimplici, foliis lanceolato-linearibus acutis tuberculato-hispidulus, margine subrevolutis distanter at inequaliter serratis, infra albido-pilosis, ima basi utrinque et approximate bidentatis, floribus parvulis corymbosis, flosculis 3—5-fidis, laciniis ovalibus acutis. A. Rich. Sert. Astrolab. p. 92. t. 34.

New Zealand (Northern Island). Among fern at Wangaroa.—1833, R. Cunningham.

12. Brachyglottis, Forst. Char. Gen. 46. t. 46.

Capitulum radiatum, radiis brevissimis recurvis tridentatis. Pappus densus plumosus caducus. Achenium erostre teretiusculum sulcatum.

463. B. repanda, paniculis decompositis divaricatis terminalibus, foliis elliptico-ovalibus petiolatis repando-sinuatis, supra lævibus, subtus albo-tomentosis, caule arboreo. Forst. loc. cit.—Cineraria repanda. Forst. Prodr. n. 295. Willd. Sp. Pl. iii, p. 2076. A. Rich. Fl. Nov. Zel. p. 250.—C. dealbata. Sol. Mss. in Bibl. Banks.

Puka-Puka or Buka-buka, indig. R. Cunningham.

New Zealand (Middle Island). Queen Charlotte's Sound.—1769, Sir Jos. Banks. (Northern Island.) River sides, Bay of Islands.—1826, A. Cunningham. Wangaroa.—1834, R. Cunningham.

Obs. Arbor 10-15 pedalis.

The natives call a letter or paper Buka-Buka, from the English word book, a quantity of paper bound together; so, where paper has been wanting to write a letter, the ample leaf of this plant has been used in New Zealand by Europeans, the white underside, even in its recent state, taking ink or diluted pigment extremely well; hence the modern name of the plant by the natives Buka-Buka!

464. B. rotundifolia, paniculis paucifloris foliis petiolatis ovato-subrotundis integerrimis subtus tomentosis. Forst. Char. Gen. n. 2.—Cineraria rotundifolia. Forst. Prodr. n. 294. Willd. A. Rich. Fl. Nov. Zel. p. 254.

New Zealand (Middle Island.) Dusky Bay .- 1773, G. Forster.

465. B. Rani; paniculis ramosis multifloris terminalibus, foliis petiolatis lato-ellipticis acuminatis repando-serratis, supra glabris, subtus niveo-tomentosis, caule arboreo.

Rani, incol. Rich. Cunningham.

New Zealand (Northern Island). Banks of rivers, Bay of Islands, &c.—1834, R. Cunningham.

Obs. Arbor sæpe 3-orgyalis et ultra, ramosus; rami valde patentes. Folia alterna, elliptica, grosse serrata, subrepanda 2—4 pollicaria. Petioli patentes vix longitudine dimidii folii, supra canaliculati.

The plumose pappus, the short rays of the female florets, and the form of the achenium, appear sufficient to justify the separation of these plants from Cineraria, to which Forster referred them in his 'Prodromus', some years after he had published the genus Brachyglottis, which Persoon thinks ought perhaps (for the above reason) to be restored, although Forster's second view has been adopted by Willdenow. Lessing more recently, (1832) whose Synopsis Compos. appears now to be the text-book in this vast tribe of plants, considers them species of Senecio. He says, "Genus Brachyglottis, Forster's (pappo plumoso) Jacobæa, Thunb., generaque Cassiniana, Grammarthion, Dorobæa, Obojæa (Senecionis seu 2. L. radio revoluto), &c. non sunt separatu dignæ' ab Senecione.

[To be continued.]

BIBLIOGRAPHICAL NOTICES.

Illustrations of the Zoology of South Africa; consisting chiefly of Figures and Descriptions of the objects of Natural History collected during an Expedition into the interior of South Africa in the years 1834, 1835, and 1836, fitted out by the "Cape of Good Hope As-